

List of CAM5.1-2degree simulations run at LBNL for the C20C+ D&A Project

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This file lists the various CAM5.1-2degree simulations run by Lawrence Berkeley National Laboratory (LBNL) for the International CLIVAR Climate of the 20th Century Plus Detection and Attribution (C20C+ D&A) project.

General across all simulations

General model metadata

Attribute	Value
institution	Lawrence Berkeley National Laboratory, Berkeley, CA, USA
title	CAM5.1 model at 2.5x1.875degree resolution
institute_id	LBNL
model_id	CAM5.1-2degree
contact	dstone@lbl.gov
references	http://www.cesm.ucar.edu/models/cesm1.0/cam/
project_id	C20C Detection and Attribution Project
acknowledgement	Integration performed on hopper.nersc.gov at the National Energy Research Supercomputer Center
institute_model_id	cam5.1
license	Creative Commons License: http://creativecommons.org/licenses/by-nc-sa/2.0/

All-Hist/est1/v1-1

Notes

- Intended to represent an approximation of the past climate but it ignores some major forcings
- Meaningful comparisons can be made against:
 - NonGHG-Hist/HadCM3-p50-est1/v1-1

Status

31 January 2014

- All simulations completed
- Publishing of atmospheric output completed
- Publishing of land output pending

General experiment metadata

Attribute	Value
topography_file	USGS-gtopo30_1.9x2.5_remap_c050602.nc
experiment_family	All-Hist
experiment	est1
subexperiment	v1-1
parent_experiment_family	N/A
parent_experiment	N/A
parent_subexperiment	N/A

Experiment boundary conditions

Name	Setting	Filename
Anthropogenic radiative forcings		
Greenhouse gases	Historical to 2005, RCP4.5 after	ghg_rcp45_1765-2500_c100405.nc
Sulphate aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Organic aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Black carbon aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Stratospheric ozone	Historical to 2005, RCP4.5 after	ozone_1.9x2.5_L26_1850-2015_rcp45_c101108.nc
Natural radiative forcings		
Solar luminosity	Historical	SOLAR_SPECTRAL_Lean_1610-2008_annual_c090324.nc
Volcanic stratospheric aerosol	Historical	CCSM4_volcanic_1850-2008_prototype1.nc
Sea salt aerosols	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Dust aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Surface boundary conditions		
Sea surface temperature	HadISST1 to 1981-10, NOAA OI.v2 after	sst_HadOIBI_bc_0.9x1.25_1850_2011_c110307.nc, tosic_NOAA-OI-v2-for-LBNL-CAM5-1-2degree_All-Hist_v1_200501-201301_20130514.nc
Sea ice coverage	HadISST1 to 1981-10, NOAA OI.v2 after	sst_HadOIBI_bc_0.9x1.25_1850_2011_c110307.nc, tosic_NOAA-OI-v2-for-LBNL-CAM5-1-2degree_All-Hist_v1_200501-201301_20130514.nc
Land cover	Historical to 2005, RCP4.5 after	surfdyn.pftdyn_1.9x2.5_rcp4.5_simyr1850-2100_c100322.nc

Published output

Realm	Spatial dimension	Time frequency	Published variables Published variables
Atmosphere	2-D	Daily	clt, hfls, hfss, hurs, huss, pr, ps, psl, rlds, rlus, rsds, rsus, tas, tasmax, tasmin
Atmosphere	2-D	Monthly	clt, hfls, hfss, hurs, huss, pr, ps, psl, rlds, rlus, rsds, rsus, snd, tas, tasmax, tasmin
Atmosphere	3-D	Monthly	hur, hus, ta, ua, va, wap, zg

Simulations

run_id	institute_run_id	parent_run_id	Period published	Status
run001	cam5_1_real_world_v1.0_2degree_ACE1	N/A	1958-01→2012-12	Run completed, output published
run002	cam5_1_real_world_v1.0_2degree_ACE2	N/A	1958-01→2012-12	Run completed, output published

run043	cam5_1_real_world_v1.0_2degree_ACE43	N/A	1958-01→2012-12	Run completed, output published
run044	cam5_1_real_world_v1.0_2degree_ACE44	N/A	1958-01→2012-12	Run completed, output published
run045	cam5_1_real_world_v1.0_2degree_ACE45	N/A	1958-01→2012-12	Run completed, output published
run046	cam5_1_real_world_v1.0_2degree_ACE46	N/A	1958-01→2012-12	Run completed, output published
run047	cam5_1_real_world_v1.0_2degree_ACE47	N/A	1958-01→2012-12	Run completed, output published
run048	cam5_1_real_world_v1.0_2degree_ACE48	N/A	1958-01→2012-12	Run completed, output published
run049	cam5_1_real_world_v1.0_2degree_ACE49	N/A	1958-01→2012-12	Run completed, output published
run050	cam5_1_real_world_v1.0_2degree_ACE50	N/A	1958-01→2012-12	Run completed, output published
run051	cam5_1_real_world_v1.0_2degree_ACE51	N/A	1958-01→2012-12	Run completed, output published
run052	cam5_1_real_world_v1.0_2degree_ACE52	N/A	1958-01→2012-12	Run completed, output published
run053	cam5_1_real_world_v1.0_2degree_ACE53	N/A	1958-01→2012-12	Run completed, output published
run054	cam5_1_real_world_v1.0_2degree_ACE54	N/A	1958-01→2012-12	Run completed, output published
run055	cam5_1_real_world_v1.0_2degree_ACE55	N/A	1958-01→2012-12	Run completed, output published
run056	cam5_1_real_world_v1.0_2degree_ACE56	N/A	1958-01→2012-12	Run completed, output published

NonGHG-Hist/HadCM3-p50-est1/v1-1

Notes

- Intended to represent an approximation of a climate in which human activities never emitted greenhouse gases
- Meaningful comparisons can be made against:
 - All-Hist/est1/v1-1

Status as of 31 January 2014:

- All simulations completed
- Publishing of atmospheric output completed
- Publishing of land output pending

General experiment metadata

Attribute	Value
topography_file	USGS-gtopo30_1.9x2.5_remap_c050602.nc
experiment_family	NonGHG-Hist
experiment	HadCM3-p50-est1
subexperiment	v1-1
parent_experiment_family	N/A
parent_experiment	N/A
parent_subexperiment	N/A

Experiment boundary conditions

Name	Setting	Filename
Anthropogenic radiative forcings		
Greenhouse gases	Volume mixing ratios: $\text{CO}_2 = 278.0516 \cdot 10^{-6}$, $\text{CH}_4 = 721.8941 \cdot 10^{-9}$, $\text{n}_2\text{O} = 272.9596 \cdot 10^{-9}$, CFC11 (equivalent) = $33.432 \cdot 10^{-12}$, CFC12 = 0.0	N/A
Sulphate aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Organic aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Black carbon aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Stratospheric ozone	Historical to 2005, RCP4.5 after	ozone_1.9x2.5_L26_1850-2015_rcp45_c101108.nc
Natural radiative forcings		
Solar luminosity	Historical	SOLAR_SPECTRAL_Lean_1610-2008_annual_c090324.nc
Volcanic stratospheric aerosol	Historical	CCSM4_volcanic_1850-2008_prototype1.nc
Sea salt aerosols	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Dust aerosol	Repeated year-2000 annual cycle	aero_1.9x2.5_L26_2000clim_c091112.nc
Surface boundary conditions		
Sea surface temperature	HadISST1 to 1981-10, NOAA OI.v2 after, cooled according to an estimate of attributable greenhouse gas warming derived from HadCM3 simulations	tos-sic_NOAA-OI-v2_for-LBNL-CAM5-1-2degree_NonGHG-Hist_HadCM3-beta50-v1_200501-201301_20130429.nc
Sea ice coverage	HadISST1 to 1981-10, NOAA OI.v2 after, adjusted for consistency with the modified sea surface temperatures according to the algorithm of Pall et alii (2011)	tos-sic_NOAA-OI-v2_for-LBNL-CAM5-1-2degree_NonGHG-Hist_HadCM3-beta50-v1_200501-201301_20130429.nc
Land cover	Historical to 2005, RCP4.5 after	surfdatal.pftdyn_1.9x2.5_rcp4.5_simyr1850-2100_c100322.nc

Published output

Realm	Spatial dimension	Time frequency	Published variables
			Published variables
Atmosphere	2-D	Daily	clt, hfls, hfss, hurs, huss, pr, ps, psl, rlds, rlus, rsds, rsus, tas, tasmax, tasmin
Atmosphere	2-D	Monthly	clt, hfls, hfss, hurs, huss, pr, ps, psl, rlds, rlus, rsds, rsus, snd, tas, tasmax, tasmin
Atmosphere	3-D	Monthly	hur, hus, ta, ua, va, wap, zg

Simulations

run038	cam5_1_not_real_world_v1.0_2degree_ACE38	N/A	2008-01→2012-12	Run completed, output published
run039	cam5_1_not_real_world_v1.0_2degree_ACE39	N/A	2008-01→2012-12	Run completed, output published
run040	cam5_1_not_real_world_v1.0_2degree_ACE40	N/A	2008-01→2012-12	Run completed, output published
run041	cam5_1_not_real_world_v1.0_2degree_ACE41	N/A	2008-01→2012-12	Run completed, output published
run042	cam5_1_not_real_world_v1.0_2degree_ACE42	N/A	2008-01→2012-12	Run completed, output published
run043	cam5_1_not_real_world_v1.0_2degree_ACE43	N/A	2008-01→2012-12	Run completed, output published
run044	cam5_1_not_real_world_v1.0_2degree_ACE44	N/A	2008-01→2012-12	Run completed, output published
run045	cam5_1_not_real_world_v1.0_2degree_ACE45	N/A	2008-01→2012-12	Run completed, output published
run046	cam5_1_not_real_world_v1.0_2degree_ACE46	N/A	2008-01→2012-12	Run completed, output published
run047	cam5_1_not_real_world_v1.0_2degree_ACE47	N/A	2008-01→2012-12	Run completed, output published
run048	cam5_1_not_real_world_v1.0_2degree_ACE48	N/A	2008-01→2012-12	Run completed, output published
run049	cam5_1_not_real_world_v1.0_2degree_ACE49	N/A	2008-01→2012-12	Run completed, output published
run050	cam5_1_not_real_world_v1.0_2degree_ACE50	N/A	2008-01→2012-12	Run completed, output published
run051	cam5_1_not_real_world_v1.0_2degree_ACE51	N/A	2008-01→2012-12	Run completed, output published
run052	cam5_1_not_real_world_v1.0_2degree_ACE52	N/A	2008-01→2012-12	Run completed, output published
run053	cam5_1_not_real_world_v1.0_2degree_ACE53	N/A	2008-01→2012-12	Run completed, output published
run054	cam5_1_not_real_world_v1.0_2degree_ACE54	N/A	2008-01→2012-12	Run completed, output published
run055	cam5_1_not_real_world_v1.0_2degree_ACE55	N/A	2008-01→2012-12	Run completed, output published
run056	cam5_1_not_real_world_v1.0_2degree_ACE56	N/A	2008-01→2012-12	Run completed, output published